

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A system for informing that the user is in or not in wireless LAN service area comprising at least:

a preset data storing means for storing identification data of a hot spot dealer, to which the user is subscribed, and identification data of a hot spot dealer in roaming contract relation to the user's own subscribed hot spot dealer;

a wireless communication means;

a display means; and

a means functioning:

when providing a display as to whether the user is in the service area of a hot spot service, to obtain the electric field intensity of a channel as a subject of survey and identification data of a dealer and check whether the obtained identification data is identical with identification data of the user's own subscribed hot spot dealer, which is stored in the preset data storing means;

when the obtained identification data is identical with the identification data of the user's own subscribed hot spot dealer, to output data for display on the display means such that the user can decide that the obtained electric field intensity is that of the user's own subscribed hot spot dealer; and

when the obtained identification data is identical with the identification data of the roaming contract relation dealer, to output data for display on the display means such that the user can decide that the obtained electric field intensity is that of the roaming contract relation dealer.

2. (Original) The system for informing that the user is in or not in a wireless LAN service area according to claim 1, wherein the display means includes:

a light-emitting means; and

a control means for causing the light-emitting means to emit informing light in different colors in the case when the user is in the service area of the user's own subscribed hot spot dealer and the case when the user is in the service area of the dealer in roaming contract relation to the own hot spot dealer.

3. (Previously Presented) A system for informing that the user is in or not in a wireless LAN service area, comprising a means for collecting data link layer level protocol data, obtaining network congestion degree in service area and outputting the obtained network congestion degree to the display means.

4. (Previously Presented) The system for informing that the user is in or not in a wireless LAN service area according to claim 1 which further comprises a means for collecting data link layer level protocol data, obtaining the network congestion degree in the service area and outputting the obtained network congestion degree to the display means.

5. (Previously Presented) The system for informing that the user is in or not in a wireless LAN service area according to claim 1, wherein the display means includes:

a light-emitting means; and

a means functioning to control the display of the network congestion degree by controlling the flickering period of the light-emitting means based on the network congestion degree.

6. (Previously Presented) The system for informing that the user is in or not in a wireless LAN service area according to claim 4, wherein the display means includes:

a light-emitting means; and

a means functioning:

to have the light-emitting means to emit light in different colors in the case of displaying that the user is in the service areas of the user's own contracted hot spot dealer and in the case of displaying that the user is in the service area of a hot spot dealer in roaming contract relation to the own hot spot dealer; and

to display the network congestion degree by controlling the flickering cycle of the light-emitting means according to the network congestion degree.

7. (Original) The system for informing that the user is in or not in a wireless LAN service area according to claim 1, wherein wireless LAN ESS (extended service set) ID is used as identification data of the hot spot dealer.

8. (Original) The system for informing that the user is in or not in a wireless LAN service area according to claim 1,

which further comprises an agent authentication means set by the user's own subscribed hot spot dealer and a hot spot dealer in roaming contract relation to the own hot spot dealer; and

in which:

at the user side terminal data concerning the authentication means of the user's own subscribed hot spot dealer and a hot spot dealer in roaming contract relation to the own hot spot dealer and data necessary for these authentications are preliminarily stored in the memory means;

the agent authentication means carries out authentication by using the data preset by the user; and

when the agent authentication means has carried out authentication successfully, data indicative of that the pertinent service area is that of the successfully authenticated hot spot dealer is outputted to the display means for display.

9. (Original) The system for informing that the user is in or not in a wireless LAN service area according to claim 1, which further comprises a means for deciding, when a check is made as to whether the obtained identification data is identical with the identification data of the user's own subscribed hot spot dealer as stored in the preset data storing means, that the obtained identification data and the identification data stored in the preset data storing means are identical when the two data are not perfectly identical but partly identical.

10. (Original) A station system connected for communication with a wireless LAN access point, which comprises the system for informing that the user is in or not in a wireless LAN service area according to one of claims 1 to 9.

11. (Original) A method of informing that the user is in or not in a wireless LAN service area, in which:

identification data of the user's own subscribed hot spot dealer and identification data of a hot spot dealer in roaming contract relation to the own hot spot dealer are stored in a preset data storing means; and

which comprises:

a step executed by a wireless communication means to obtain the electric field intensity of a channel as a subject of survey and identification data of a dealer and check whether the obtained identification data is the identification data of the user's own subscribed hot spot dealer as stored in preset data storing means;

a step of displaying, when the obtained identification data is identical with the user's own subscribed hot spot dealer, that the obtained electric field intensity is that of the user's own subscribed hot spot dealer on a display means such that the user can understand the displayed content at a glance;

a step of making a check, when the obtained identification data fails to be identical with the identification data of the user's own subscribed hot spot dealer, as to whether the obtained data is identical with the identification data of the roaming contract relation dealer; and

a step of displaying, when the obtained identification data is identical with the identification data of the roaming contract relation dealer, that the obtained electric field intensity is that of the roaming contract relation dealer such that the user can understand the displayed content at a glance.

12. (Previously Presented) The method for informing that the user is in or not in a wireless LAN service area according to claim 11, wherein the light-emitting means in the display means is controlled to emit informing light in different colors in the case of displaying that the user is in the service area of the user's own subscribed hot spot dealer and in the case of displaying that the user is in the service area of a hot spot dealer in roaming contract relation to the own hot spot dealer.

13. (Previously Presented) A method for informing that the user is in or not in a wireless LAN service area, which comprises a step of collecting data link layer protocol data, obtaining the network congestion degree of the service area and outputting the obtained network congestion degree to the display means.

14. (Previously Presented) The method for informing that the user is in or not in a wireless LAN service area according to claim 11, which comprises a step of collecting data link layer level protocol data, obtaining the network congestion degree of the service area and outputting the obtained network congestion degree to the display means.

15. (Previously Presented) The method for informing that the user is in or not in a wireless LAN service area according to claim 13, which comprises a step of displaying the network congestion degree by controlling the flickering cycle of the light-emitting means in the display means according to the network congestion degree.

16. (Previously Presented) The method for informing that the user is in or not in a wireless LAN service area according to claim 12, which comprises a step of collecting data link layer level protocol data, obtaining the network congestion degree of the service area and displaying the network congestion degree by controlling the flickering cycle of the light-emitting means based on the network congestion degree.

17. (Previously Presented) The method for informing that the user is in or not in a wireless LAN service area according to claim 11, wherein wireless LAN ESS (Extended Service Set) ID is used as the identification data of the hot spot dealer.

18. (Original) A method of informing that the user is in or not in a wireless LAN service area, in which:

data concerning authentication means of the user's own subscribed hot spot dealer and a hot spot dealer in roaming contract relation to the own hot spot dealer and data necessary for these authentications are preliminarily stored in a storing means; and

which comprises:

a step executed by the agent authentication means for authentication by using data preset by the user; and

displaying, when the agent authentication means has carried out successful authentication, that the service area is of the successfully authenticated hot spot dealer.

19. (Previously Presented) The system according to claim 4, wherein the congestion degree is obtained by measuring reliability of reception of an acknowledged (ACK) frame that is transmitted by an access point, or by measuring frequency of reception of a Clear to Send (CTS) frame that is transmitted by the access point.

20. (Previously Presented) The method for informing that the user is in or not in a wireless LAN service area according to claim 11, wherein the congestion degree is obtained

by measuring reliability of reception of an acknowledged (ACK) frame that is transmitted by an access point, or by measuring frequency of reception of a Clear to Send (CTS) frame that is transmitted by the access point.